

AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remain(s) under examination in the application is presented below. The claims are presented in ascending order and each includes one status identifier. Those claims not cancelled or withdrawn but amended by the current amendment utilize the following notations for amendment: 1. deleted matter is shown by strikethrough for six or more characters and double brackets for five or fewer characters; and 2. added matter is shown by underlining.

1. (Currently Amended) A method for creating a library of pump data on a computer having a database, the pump data being organized into sets of program data, each set of program data being available for batch downloading to a medical pump and including data items for controlling operation of the medical pump, the method comprising:

entering a plurality of data items into a database stored in the computer, the plurality of data items forming a set of program data, ~~at least some of the data items being individualized, patient-specific parameters~~ for controlling operation of a medical pump;

assigning at least one data key to the set of program data, the data key identifying the set of program data;

batch-down loading the plurality of data items into memory within the pump, ~~the batch-downloading comprising downloading at least first and second patient-specific parameters without intervention from a user between the downloading of the first and second patient-specific parameters;~~

uploading the plurality of data items from the pump back to the computer;

comparing the data items that were downloaded into the pump to the data items that were uploaded back from the pump;

generating an error if the data items that were downloaded into the pump are not identical to the data items that were uploaded back from the pump; and

controlling operation of the pump based on one or more of the data items if the data items that were downloaded into the pump are identical to the data items that were uploaded back from the pump.

2. (Original) The method of claim 1 wherein the acts of:  
  
entering a plurality of data items into a database includes entering the plurality of data items into a program data record in the database; and  
  
assigning at least one data key to the set of program data includes entering the data key into a data key record and linking the data key record to the program data record.
3. (Original) The method of claim 2 wherein the act of assigning at least one data key to the set of program data further includes: entering an identification code selected from the group consisting essentially of a patient I.D., a therapy I.D., and a fluid I.D., wherein the patient I.D. is a code identifying a patient, the therapy I.D. is a code identifying a therapy administered using a medical pump, and the fluid I.D. is a code identifying a fluid that is administered using a medical pump.
4. (Original) The method of claim 3 wherein the computer is in data communication with a scanner, the method further comprising:  
  
scanning a bar code with the scanner; and  
  
entering the bar code into the computer, wherein the act of assigning at least one data key to the set of program data includes assigning the bar code to the set of program data.
5. (Original) The method of claim 3 wherein the computer is in data communication with a medical pump, the method further comprising uploading a set of program data items from the pump.

6. (Canceled).

7. (Currently Amended) An apparatus for maintaining a library of program data for medical pumps, the apparatus configured to interface with a medical pump having memory, the apparatus comprising:

memory loaded with a database, the database including a plurality of program data records and a plurality of data key records, each program data record containing a set of program data items, ~~at least some of the program data items included in the database being individualized, patient-specific parameters for controlling operation of a medical pump, at least one of the individualized, patient-specific parameters being selected from the group consisting of an age, a weight, a delivery schedule, a delivery rate, dose requirements, limit for the size of boluses, limit for the frequency of boluses, a dose, a bolus amount, a minimum time between boluses, a volume limit for delivery, and a bolus frequency,~~ each data key record containing a data key and each data key identifying one of the data program records;

a database management system programmed to link a data key to a set of program data and to batch download data to the memory within the medical pump, ~~at least some of the program data batch downloaded into memory being individualized, patient specific parameters;~~  
and

wherein the database management system is further programmed to receive the data downloaded to the medical pump back from the medical pump, compare the data downloaded to the medical pump to the data received back from the pump, and generate an error message if the data downloaded to the pump does not match the data received back from the pump.

8. (Original) The apparatus of claim 7 further comprising a scanner in data communication with the database management system, the database management system being further programmed to receive a code scanned by the scanner, save the code in a data key record, and link the code to a set of program data, the code being a data key.

9. (Original) The apparatus of claim 7 further comprising a medical pump, the medical pump storing a set of program data, the database management system being further programmed to receive the set of program data from the medical pump and save the set of program data as a record in the database.

10. (Currently Amended) An apparatus for batch programming a medical pump having memory, the apparatus comprising:

memory loaded with a database, the database including a plurality of program data records and a plurality of data key records, each program data record containing a set of program data items, ~~at least some of the program data items included in the database being individualized, patient-specific parameters for controlling operation of a medical pump, at least one of the individualized, patient-specific parameters being selected from the group consisting of an age, a weight, a delivery schedule, a delivery rate, dose requirements, limit for the size of boluses, limit for the frequency of boluses, a dose, a bolus amount, a minimum time between boluses, a volume limit for delivery, and a bolus frequency,~~ each data key record containing a data key and each data key identifying one of the data program records;

a data output configured for data communication with a programmable medical pump;  
and

a processor in electrical communication with the memory and the data output, the processor configured to retrieve a set of program data from the database and batch download the set of program data to the memory within the medical pump, the processor further configured to receive back from the pump an upload of the program data that was downloaded to the pump, compare the program data received back from the pump with the program data downloaded to the pump and generate an error message if the program data received back from the pump does not match the program data that was downloaded to the pump at least some of the program data batch-downloaded into memory being individualized, patient-specific parameters.

11. (Original) The apparatus of claim 10 further comprising a serial communication cable connected to the data output.

12. (Original) The apparatus of claim 10 further comprising a medical pump in data communication with the data output.

13. (Original) The apparatus of claim 10 wherein each data key record includes first and second fields, the first field for storing an identification code and the second field for storing a name in prose.

14. (Original) The apparatus of claim 10 wherein each data key record includes fields for a patient I.D., a therapy I.D., and a fluid I.D.

15. (Previously Presented) The apparatus of claim 10 wherein the processor is programmed:

to generate a user interface, the user interface including a plurality of graphical fields for program data.

16. (Currently Amended) A method for batch programming a medical pump having memory, the method comprising:

selecting a set of program data, ~~the set of program data including individualized, patient specific parameters~~ for controlling operation of a medical pump; and

batch downloading the set of program data to the memory within the medical pump, ~~at least some of the program data batch downloaded to the memory being individualized, patient specific parameters, at least one of the individualized, patient specific parameters being selected from the group consisting of an age, a weight, a delivery schedule, a delivery rate, dose requirements, limit for the size of boluses, limit for the frequency of boluses, a dose, a bolus amount, a minimum time between boluses, a volume limit for delivery, and a bolus frequency,~~ wherein the set of program data is downloaded to the medical pump without intervening action by a user after ~~[[the]]~~ a first data item of the set of program data is downloaded to the computer,

wherein an information management system is loaded on the computer and the information management system includes a database storing a plurality of data keys and a

plurality of program data sets and the act of batch downloading the set of program data includes downloading the set of program data from the computer to the medical pump, the method further comprising:

uploading the set of program data from the medical pump to the computer after it is downloaded to the medical pump;

comparing the set of program data that was downloaded to the medical pump to the set of program data that was uploaded from the medical pump; and

generating an error if the set of program data that was downloaded from the medical pump is not identical to the program data that was uploaded from the medical pump.

17. (Currently Amended) The method of claim 16 ~~wherein an information management system is loaded on a computer and the information management system includes a database storing a plurality of data keys and a plurality of program data sets, and~~ wherein the act of selecting a set of program data comprises:

entering a data key into the information management system;

referencing the data key to a program data set; and

and retrieving the referenced program data set from the database.

18. (Original) The method of claim 17 wherein the act of entering a data key includes scanning a bar code.

19. (Canceled)



20. (Canceled).

21. (Canceled).

22. (Canceled).

23. (Previously Presented) The apparatus of claim 10 wherein the data key record includes a field, the field for storing a therapy name.

24. (Previously Presented) The apparatus of claim 23 wherein the data key record includes an additional field, the additional field for storing a therapy I.D.

25. (Canceled).

26. (Currently Amended) A pump for infusing fluid into a patient, the pump comprising:  
a housing;

a pump mechanism positioned within the housing;

memory positioned within the housing and configured to store a plurality of data items forming a set of program data; ~~at least some of the data items being individualized, patient-specific parameters~~ for controlling operation of a medical pump;

a first program module programmed to receive a batch download of the plurality of data items from a computer, the first program module further configured to upload the plurality of

data items back to the computer and receive an error message from the computer if the data items downloaded from the computer are not identical to the data items uploaded back to the computer  
~~at least some of the data items batch downloaded being individualized, patient-specific parameters, at least one of the individualized, patient-specific parameters being selected from the group consisting of an age, a weight, a delivery schedule, a delivery rate, dose requirements, limit for the size of boluses, limit for the frequency of boluses, a dose, a bolus amount, a minimum time between boluses, a volume limit for delivery, and a bolus frequency; and~~

a second program module programmed to control operation of the pump mechanism according to the batch downloaded plurality of data items ~~at least some of the batch downloaded data items controlling operation of the pump being individualized, patient-specific data items.~~

27. (Canceled).

28. (Previously Presented) The pump of claim 26 wherein the program data identifies a therapy name.

29. (Previously Presented) The pump of claim 26 wherein the program data includes a data key.

30. (Previously Presented) The pump of claim 26 wherein the first and second program module include code executable by a processor.

31. (Previously Presented) The pump of claim 26 wherein the first and second program modules comprise program code.

32. (Previously Presented) The method of claim 1 wherein the plurality of data items includes at least one data item selected from the group consisting of data items related to delivery schedules, medication doses, and boluses.